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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/730,564      | 12/08/2003  | Kevin J. Barefield   |                     | 4239             |

7590 10/18/2006

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| EXAMINER |
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STAICOVICI, STEFAN

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| ART UNIT | PAPER NUMBER |
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1732

DATE MAILED: 10/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/730,564

**Applicant(s)**

BAREFIELD ET AL.

**Examiner**

Stefan Staicovici

**Art Unit**

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicants' amendment filed July 24, 2006 has been entered. Claims 1-22 are pending in the instant application.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, lines 14-15, the newly added limitation that "said region of strands *can be* placed into said internal passage" (emphasis added) is unclear whether it is an optional step or an actual positive step of the claimed invention. It is noted that for the purpose of examination it has been assumed that said region of strands "*is capable*" of being placed into the internal passage. Further clarification is required.

Claims 2-7 are rejected as dependent claims.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 5-9, 13, 17-18 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Killian (US Patent No. 4,184,784) in view of Zimmermann *et al.* (US Patent No. 5,372,767) and in further view of Brown (US Patent No. 3,859,780).

Killian ('784) teaches the basic claimed process for infusing a region of strands in a rope (cable) including, exposing a plurality of strands, dipping said exposed strands into a thermosetting resin, removing said dipped strands, centering said dipped strands inside an anchor and curing (hardening) said thermosetting resin to thereby bond said strands to said anchor (see col. 3, line 61 through col. 4, line 7).

Regarding claims 1, 8, 13 and 20, although Killian ('784) teaches infusing the strands with a thermosetting resin and removing said infused strands prior to curing, Killian ('784) does not teach infusing resin using a mold having a strand cavity and an in-feed runner for carrying the thermosetting resin. Brown ('780) teaches a process for infusing strands with a thermosetting resin. Specifically, Brown ('780) teaches that dipping a plurality of strands in a mold containing a thermosetting resin is an equivalent alternative to positioning the strands in the mold and then introducing the thermosetting resin in the mold (see col. 2, lines 5-20). Zimmermann *et al.* ('767) teaches an injection molding process for infusing a rope (3) with a resin including, providing a mold cavity, placing said rope in said cavity and introducing resin to infuse said rope (see Abstract). Further, Zimmermann *et al.* ('767) teaches a mold (1) having a mold cavity and a needle (4) extending into said mold cavity. Furthermore, Zimmermann *et al.* ('767) teaches an

injecting runner (14) for introducing resin, wherein said injecting runner (14) is located proximate the tip of the needle (4) (see Figure 1). It is submitted that the injector forms a sealing surface in order for resin to be introduced under pressure into the mold cavity. Therefore, in view of the teachings of Brown ('780) that dipping a plurality of strands in a mold containing a resin is an equivalent alternative to positioning the strands in the mold and then introducing the resin in the mold, it would have been obvious for one of ordinary skill in the art to provide the injection molding set-up of Zimmermann *et al.* ('767) in the process of Killian ('784) because, Zimmermann *et al.* ('767) teaches an efficient process for infusing a plurality of strands with a resin, whereas Killian ('784) requires such infusion, thereby suggesting the process of Zimmermann *et al.* ('767) and also because Brown ('780) specifically teaches that dipping a plurality of strands in a mold containing a resin is an equivalent alternative to positioning the strands in the mold and then introducing the resin in the mold.

In regard to claims 5 and 17, Brown ('780) teaches a process for anchoring a cable having a plurality of wires including, providing a spacer for maintaining the wires in a desired position (see col. 2, lines 5-17). Therefore, it would have been obvious for one of ordinary skill in the art to have provided a spacer as taught by Brown ('780) in the process of Killian ('784) in view of Zimmermann *et al.* ('767) because Brown ('780) teaches that such a spacer maintains the individual wires (strands) in a specified configuration, hence providing for an improved product.

Specifically regarding claims 6-7, 9, 18-19 and 21, although Killian ('784) in view of Zimmermann *et al.* ('767) and in further view of Brown ('780) teach an injection molding process, Killian ('784) in view of Zimmermann *et al.* ('767) and in further view of Brown ('780)

do not teach a vacuum vent channel. However, the use of a vacuum vent channel in an injection molding process is well known. Therefore, it would have been obvious for one of ordinary skill in the art to provide a vacuum vent channel in the injection molding process of Killian ('784) in view of Zimmermann *et al.* ('767) and in further view of Brown ('780) because of known advantages such as reduced porosity, hence providing for an improved product.

6. Claims 10, 11-12 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Killian (US Patent No. 4,184,784) in view of Zimmermann *et al.* (US Patent No. 5,372,767) and in further view of Brown (US Patent No. 3,859,780) and Davis (S Patent No. 3,660,887).

Killian ('784) in view of Zimmermann *et al.* ('767) and in further view of Brown ('780) teach the basic claimed process as described above.

Regarding claims 10, 11 and 22, Killian ('784) in view of Zimmermann *et al.* ('767) and in further view of Brown ('780) do not teach that the mold is the anchor. However, it is well known to use the anchor as a mold as evidenced by Davis ('887) who teaches a process for infusing a plurality of strands with resin including, using an anchor as a mold as an equivalent alternative to using a separate mold (see col. 5, lines 39-52). Therefore, it would have been obvious for one of ordinary skill in the art to use the anchor as a mold as taught by Davis ('887) in the process of Killian ('784) in view of Zimmermann *et al.* ('767) and in further view of Brown ('780) because, Davis ('887) specifically teaches that in a process for infusing a plurality of strands with resin using an anchor as a mold is an equivalent alternative to using a separate mold.

Specifically regarding claim 12, although Killian ('784) in view of Zimmermann *et al.* ('767) and in further view of Brown ('780) and Davis ('887) teach an injection molding process, Killian ('784) in view of Zimmermann *et al.* ('767) and in further view of Brown ('780) do not teach a vacuum vent channel. However, the use of a vacuum vent channel in an injection molding process is well known. Therefore, it would have been obvious for one of ordinary skill in the art to provide a vacuum vent channel in the injection molding process of Killian ('784) in view of Zimmermann *et al.* ('767) and in further view of Brown ('780) and Davis ('887) because of known advantages such as reduced porosity, hence providing for an improved product.

7. Claims 2-4 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Killian (US Patent No. 4,184,784) in view of Zimmermann *et al.* (US Patent No. 5,372,767) and in further view of Brown (US Patent No. 3,859,780) and Applicants' Admitted Prior Art (APA).

Killian ('784) in view of Zimmermann *et al.* ('767) and in further view of Brown ('780) teach the basic claimed process as described above.

Regarding claims 2-4 and 14-16, Killian ('784) in view of Zimmermann *et al.* ('767) and in further view of Brown ('780) does not teach splaying said wires (strands) into a fan, cone or radial fan. However, Applicants' Admitted Prior Art (APA) teaches that it is well known to splay the strands (wires) of a cable/rope into a fan, cone or radial fan (see Figure 1). Therefore, it would have been obvious for one of ordinary skill in the art to have splayed wires (strands) into a fan, cone or radial fan as taught by Applicants' Admitted Prior Art (APA) in the process of Killian ('784) in view of Zimmermann *et al.* ('767) and in further view of Brown ('780) because

of known advantages such as improved resin infusion, hence providing for an improved bond and as such as an improved product and also because of its known status.

### ***Response to Arguments***

8. Applicant's arguments filed July 24, 2006 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Staicovici, Ph.D. whose telephone number is (571) 272-1208. The examiner can normally be reached on Monday-Friday 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson, can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.



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Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stefan Staicovici, PhD

A handwritten signature in black ink, appearing to read 'Stefan Staicovici', with a stylized, cursive script.

Primary Examiner

10/13/06

AU 1732

October 13, 2006